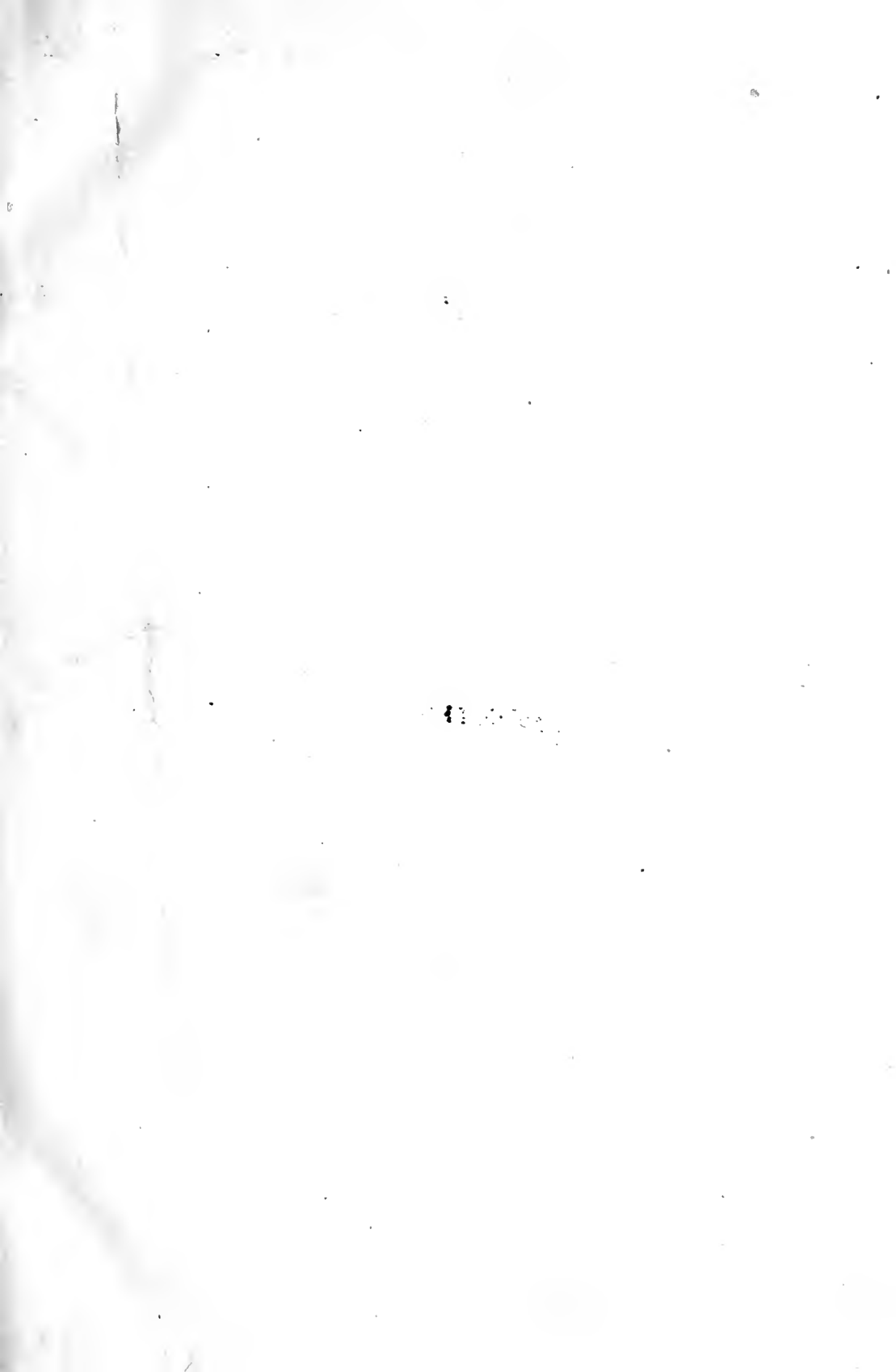
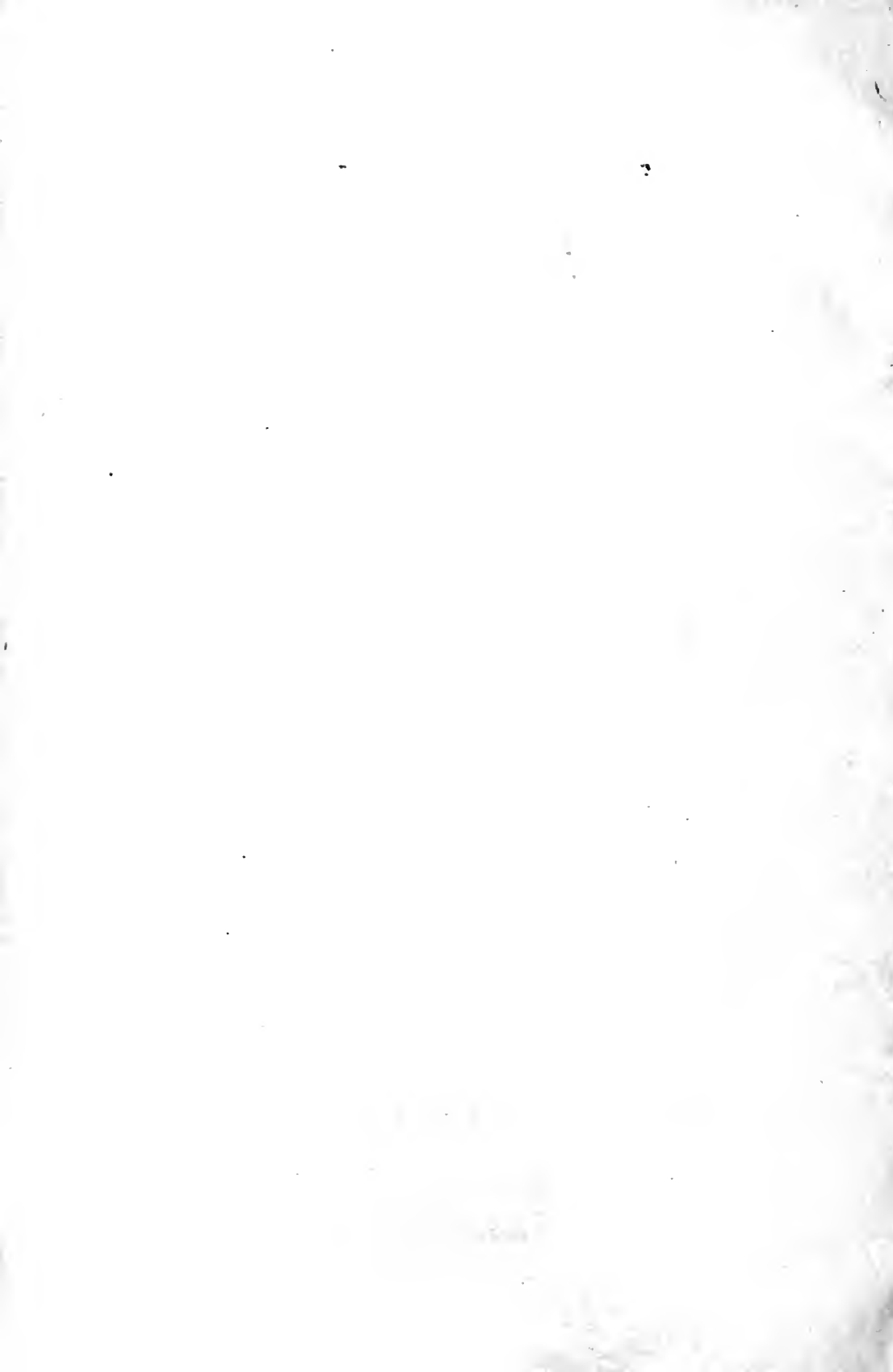


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PROVINCE OF BRITISH COLUMBIA

DEPARTMENT OF AGRICULTURE  
(WOMEN'S INSTITUTE)

BULLETIN No. 53

THE CARE OF YOUNG CHILDREN

By  
MISS ALICE RAVENHILL  
Fellow of the Royal Sanitary Institute, etc., etc.



THE GOVERNMENT OF  
THE PROVINCE OF BRITISH COLUMBIA.

PRINTED BY  
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Printed by WILLIAM H. CULLIN, Printer to the King's Most Excellent Majesty.  
1914.





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DEPARTMENT OF AGRICULTURE,  
VICTORIA, B.C., March 9th, 1914.

*Hon. Price Ellison,*  
*Minister of Agriculture.*

SIR,—I have the honour to transmit herewith Bulletin No. 53, entitled “The Care of Young Children,” prepared by Miss Alice Ravenhill, Fellow of the Royal Sanitary Institute, etc., for distribution to the members of the Women’s Institutes throughout the Province.

I have the honour to be,  
Sir,  
Your obedient servant,

WM. E. SCOTT,  
*Deputy Minister of Agriculture,*  
*Superintendent of Institutes.*



# THE CARE OF YOUNG CHILDREN.

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**W**E are all agreed to-day as to the value of child-life, for is not this quite commonly described as "the century of the child?" But could we all, if called upon to do so, give sound reasons for this faith we profess to hold? As a matter of fact,

## **THERE ARE MANY GROUNDS FOR THE OPINION.**

It may be the outcome of the anxiety caused by the steadily diminishing birth-rate; or by the appallingly high rate of infant mortality; or the annual toll taken by preventable disease in the early years of life; a series of stern facts brought more and more prominently before the public in the reports of medical and sanitary experts and by a discerning press. Truly they represent a menace to

## **THE PROGRESSIVE EXISTENCE OF CIVILIZED NATIONS;**

because, in a quarter of a century, more or less, there will be a deficiency of sturdy, strenuous, middle-aged burden-bearers in the population and an excess of those whose capacities as Empire-builders are enfeebled by age or undeveloped on account of childish immaturity.

To the sanitarian these unpalatable facts speak, too, of thousands of damaged, debilitated lives, unfit for the stress of modern life, unable to realize their latent powers; for scientific observations, associated with carefully collected statistics, prove conclusively that

## **THE YOUTHFUL SURVIVORS**

of conditions fatal to the more weakly bear obvious traces of their infantile struggle for existence. Many of these lifelong scars may be detected in the form of stunted stature, enfeebled powers of resistance to disease, lowered capacity for work, or in defects of brain, body, sight, and hearing.

Or it may be that our attention has been called to the importance of childhood as

## **A PERIOD IN LIFE RICH IN POSSIBILITIES,**

upon the orderly realization of which depends adult efficiency. It may be that some remarks made in our favourite periodical upon the relative influence of nature and nurture upon the young human being have awakened our interest and aroused in us a deeper respect for this marvellous "clay cottage" in which our spirits are housed.

By whatever means the impression has been made, the fact remains that in most cases

## **IT IS DEEP AND ENDURING;**

hence the growing desire to learn from reliable sources in what consists the intelligent care of child-life.

Societies for the purpose of such study have existed in the Motherland and in the United States for at least twenty-five or thirty years. The Parents' Educational Union, the Mothers' Union, the Child Study Society, the Froebel Society, for instance, have branches all over the United Kingdom; while, of more recent date, the Eugenics Education Society and the National Society for the Welfare of Infancy are emphasizing still other aspects of this comprehensive subject, which embraces every phase of existence and development, physical, mental, and moral; ante- and post-natal childhood and adolescence.

Attention has been called in the last three years to the

### WASTAGE OF INFANT-LIFE IN CANADA

by Dr. Helen McMurchy, in her series of stirring reports on "Infant Mortality," printed by order of the Legislative Assembly of Ontario; while a considerable proportion of the pages of the journal which represents the still youthful Canadian Public Health Association are devoted monthly to the intelligent management of children. It is most fitting, therefore, that it should form an item in the study programme of the Women's Institutes.

For, after all, does it not seem a strange thing that hitherto so little time and thought have been given to the influences which contribute to the child's chances of becoming that

### NATIONAL ASSET

about which many of us talk so glibly? The delusion dies hard that maternity carries with it the knowledge necessary to the healthful rearing and intelligent training of children. It is true that the realization that an infant's prospects of a healthful and prosperous maturity are promoted or prejudiced by its ancestors is very slowly dawning upon the public mind; but that the parent of to-day is making or marring his descendants in the third or fourth generation is by no means generally recognized.

### SOME CENTURIES AGO

a king of France stood watching an ancient man as he laboured without pause, planting date-kernels. "Why," asked the King, "do you sow the seeds of a tree of such slow growth, seeing that the dates will not ripen till a hundred years be passed?" Prompt was the answer to the question: "Am I not now eating the fruit of trees planted by my forefathers, who took thought for those who were to come, and shall not I do likewise?" Is it possible that Dr. Oliver Wendell Holmes had this story in mind when he framed his reply to a lady who inquired

### AT WHAT AGE IT WERE WELL TO BEGIN THE EDUCATION OF HER CHILD.

"Madam," said he, "a hundred years before birth."

The ancient sower of date-kernels voiced a deeper truth than even he suspected when he spoke of his responsibility to future generations; the witty reply of "the Poet of the Breakfast Table," forecasted a line of teaching but now receiving tardy attention—namely, that the progenitors of the past transmitted their qualities to many more than their immediate offspring, and that a duty is owed to the unborn, whose lives will be affected for good or ill by our actions in the present and by those of our forefathers in the past.

To study the facts of inherited tendencies; to impress upon the world its responsibility to succeeding generations; to direct the attention of parents to the right of every child to be "well born," is the mission of the Eugenics Education Society, which derives its name from the Greek words "good birth"; for its members perceive that the diseased, the insane, the alcoholic, are incapable of transmitting

### THE TORCH OF LIFE

undimmed to their descendants; far less can they hand it on brighter, more brilliant, than they received it.

This part of my subject is too complex and vast to be entered upon in this bulletin; but even a brief reference will illustrate its supreme importance to parents, if only for the light it throws upon a problem often found to be as inconvenient as it is perplexing—namely, the diversity of character and appearance, the variation in capacity to resist infection, the disparity in standard of health, among the members of a family. John is a hopeless truant; Ted is as steady as Old Time; Jane is a veritable angel in the house, while Clara is a firebrand. Mary "catches" everything that comes her way and is always ailing, while Bill enjoys riotous health all his days!

## WHY IS THIS?

A common expression when a child shows a marked resemblance to some near relation is to describe him as a chip of the old block.

Now, if a block of marble be subjected to close examination it will be found to consist of countless myriads of particles, welded together into a compact mass. Similarly, a human body is composed of millions of microscopic particles, called cells, from which are built up bone and muscle, nerves, and all its other parts.

At first glance, all blocks of marble and all human bodies seem to resemble each other so closely that it is hard to distinguish between them when we see them for the first time. But a more careful examination will in each case reveal peculiarities possessed by each individual, whether block of marble or human body. No two chips off a block are identical, much less are two human beings ever exactly alike. Infinitely minute as are the "cells" which build up our bodies, nevertheless their characteristics and combinations are influenced in some mysterious way by our ancestors.

If we count the

### NUMBER OF THESE ANCESTORS

even to the tenth generation only (two parents, four grandparents, eight great-grandparents, and so on), we shall find to our surprise that more than a thousand forebears have been transmitting more or less of their personality to us in the course of about 250 years. Pursue the calculation for a further period of 250 years and our brains will reel at the formidable number of those who have contributed to our "make-up," moral, mental, or physical. (See Fig. 1.) Thus, each child, while a veritable chip of the old family block, is also a distinct individual, in whom the admixture of family features and characteristics results in a new blend. Sir Francis Galton has foretold that at no distant date a careful record will be kept in every home of the life-history of its inmates, so that among the most cherished possessions of the Empire will be its

### GOLDEN BOOK OF THRIVING FAMILIES,

containing the unblemished chronicles of a healthful, moral people, proud of their distinguished ancestry (distinguished by freedom from disease and vice), proud of their capacity to furnish their country with a sane and sound population.

But, though every child has certain definite characteristics inherited from his parents, he has others which are acquired through his own experience in life; that is to say, every individual is the result of two forces—

### NATURE AND NURTURE;

and it is extremely difficult to determine which of these two plays the more important part in the production of those characteristics which, when found in combination, we call health. Speaking broadly, we may say that

### HEREDITY OR RACE

has much influence in such particulars as the build of a child, the colour of hair and eyes, the type of feature, etc. On the other hand, diseases are not usually inherited, though it must be clearly understood that predisposition to disease IS commonly transmitted from parent to offspring. Take, for example,

### THE CASE OF CONSUMPTION.

There are certain families whose children are predisposed to this disease; that is to say, the constitution of the children is such that it provides a better soil for the seeds of consumption to grow in than do the bodies of children not so predisposed.

Again, there are families naturally resistant to certain forms of disease, who, owing to

### BAD HOME CONDITIONS OR TO BAD PERSONAL HABITS,

have had their powers of resistance so much weakened that they become susceptible to infection. Evidence has been collected by medical men all over the world which

proves that, no matter how healthy a child may be at birth, good home circumstances are necessary if that health is to be maintained, while the condition of the home depends largely upon the habits of its inmates. A delicate child placed under good conditions of air, light, food, rest, and exercise, and consistently trained in good habits of cleanliness, mastication of food, daily attention to relieving the body of

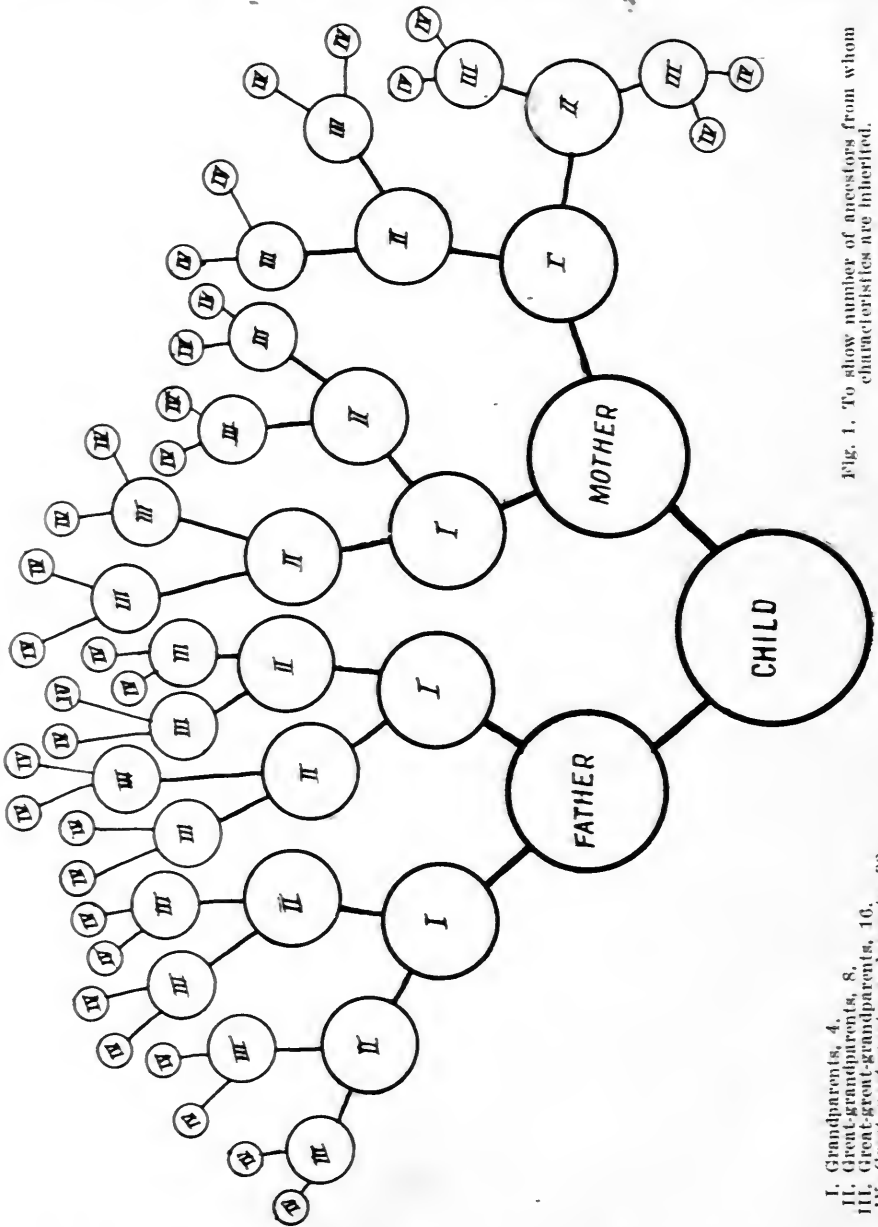


Fig. 1. To show number of ancestors from whom characteristics are inherited.

- I. Grandparents, 4.
- II. Great-grandparents, 8.
- III. Great-great-grandparents, 16.
- IV. Great-great-great-grandparents, 32.

waste and injurious matters, self-control, and prompt obedience, may attain and maintain a standard of health and power of productive work in maturity never realized by a companion who, from the standpoint of heredity, had infinitely superior chances at birth.

In speaking here of health, will my readers bear in mind that I refer to mental and moral, as well as to physical, health.



Every individual who assumes responsibility for the care of human life, but more especially of

### YOUNG HUMAN LIFE,

should be aware that the processes of that life are governed by laws, as are communities and nations. Among these laws are those of—

*Heredity*, which control the general resemblance of a child to his ancestors:

*Variation* from a common type, so that each child has qualities peculiar to himself:

*Modification* by surroundings, by which strong points may be developed or destroyed by the conditions of life:

*Adaptability*, or the power we all possess to adapt ourselves more or less successfully to our surroundings:

*Predisposition*, or individual tendency to certain lines of conduct; to contract or to resist certain kinds of disease; or to excel in certain arts, crafts, or professions.

As a knowledge of the existence of these laws has dawned gradually on the world, thanks to the wonderful work and discoveries of scientific observers during the past sixty or seventy years, it can no longer be a matter for surprise that all life becomes more dignified in our eyes, and that

### THE RESPONSIBILITIES OF PARENTHOOD

assume a greater importance. We can no longer pretend that a child comes into the world resembling a sheet of white paper, upon which we are free to write the habits and tastes we choose. We are now aware that each infant is a mass of inherited tendencies, the development or repression of which depend upon the surroundings we provide, the food we furnish, the activities we encourage, the sleep and play we permit. To train for the

### RIGHT REARING OF CHILDREN

is a duty imposed, not upon parents only, but upon all those who are in any way concerned with their nurture and education. The subject is as vast as it is full of absorbing interest. Several years of my own life have been devoted to gathering information on its many characteristics and phases, and in passing on this information to those whose lives did not allow them to secure it at first hand; to busy parents, to hundreds of teachers, to many of the workers for the world's advancement. One of the first points to claim our attention is

### THE DURATION OF CHILDHOOD.

Under the several names of infancy, childhood, and adolescence, this phase of life actually covers the whole period of immaturity in physical development, which, in the human being, extends for twenty-five years after birth (birth itself being a stage in life, not its beginning, as is popularly and conventionally assumed) though it is customary to limit it to a much shorter time.

Two facts of great consequence arise out of this knowledge:—

- (1.) The significance to the child's welfare of its antenatal life:
- (2.) The recognition that definite training and guidance should be extended to our young folk to a later period than is now usual.

The most critical years of mental growth are those from fifteen to twenty-two or twenty-three; it is during these years that the faculties of moral self-control should develop. If they are left unexercised they fail to do so, for it is exercise which stimulates normal growth. The result is a population prone to following the line of least resistance, content with a lower standard of ideals and attainments than it should be.

Do not assume that I am advocating a policy of

### “LEADING STRINGS”;

far from that. Young folk must try their wings, must buy their experience. My point is that, by comradeship with their elders, by means of suitable hobbies, recrea-

tions, and occupations, they shall unconsciously be guided to exercise those powers, all ripe for development, which, in the absence of systematic use, never influence conduct.

Remember that the long period of immaturity means power to progress. During immaturity there is plasticity; new habits can be formed, new powers cultivated, increased control of surroundings acquired.

All this, when summed up, represents what we call

### **EXPERIENCE,**

or ability to use the lessons of the past to benefit the future. Consequently we find that where animals take a longer period to attain maturity their lives are longer, so that they can utilize what they learn, as well as enjoy their greater powers of adapting themselves to more varied conditions.

### **COMPARE A GUINEA-PIG WITH A HORSE.**

The limited capacities of a guinea-pig necessitate a very short antenatal life (seven weeks); in seven months it is mature and can reproduce its kind, but its life rarely extends to seven years, neither does it at any period of life or in any generation develop beyond the stage attained by countless generations of its ancestors.

The horse, on the other hand, possesses so much more elaborate a nervous system, so much more capacity for training, that an antenatal period sevenfold as long is essential to "laying down" its outlines and six years is necessary to its development; BUT a horse can be trained in many useful habits and can remain of service for twenty-five or thirty years.

To a far higher degree, mankind

### **POSSESSES UNREALIZED CAPACITY FOR PROGRESS,**

if the quality of the stock is maintained, if the conditions of normal growth be respected, and if due opportunity be offered for the exercise of powers latent in brain and body. It has been well said that, where, from absence of judicious training in youth,

### **LIBERTY, LUXURY, AND LICENCE CHARACTERIZE MATURITY,**

vital bankruptcy is the inevitable result.

Leaving on one side the influences of a child's forefathers, the health of an expectant mother has of late years assumed an importance too long overlooked. It is during these months that her "weak spots" are likely to show; their appearance must on no account be neglected. Errors in diet, exercise, clothing, sleeping, or surroundings must be corrected. Not that there are special laws of health for this period, but, in almost every case,

### **SPECIAL APPLICATION OF ORDINARY RULES OF LIFE**

is needed. The future of the infant may be threatened by premature birth, by infection with what are known as "racial poisons" (syphilis, alcohol, or lead), or its vitality may be lowered by the defective nutrition of the mother.

The grievous results to the offspring of syphilitic infection eat like a canker at the root of our national life; they could and should be known by all potential parents. The disastrous effects of antenatal poisoning with alcohol have been verified past dispute. They appear as children grow up in the form of epilepsy, warped minds and stunted bodies, mental instability which predisposes to crimes of violence, insanity, and, what is almost worse, feeble mindedness. Chronic alcoholism, too, is a frequent cause of marked malformation in the offspring, although many cases occur in which no history of alcoholism can be traced. Nevertheless,

### **IN THE OPINION OF THE BEST AUTHORITIES**

alcohol in even small quantities has an evil influence upon antenatal life, and should be as religiously eschewed by the nursing as by the expectant mother.

The following simple rules for the expectant mother summarize the opinion of the leading physicians of to-day:—

- (1.) She should go about her ordinary duties as usual, *unless orders to the contrary are given by her doctor*;
- (2.) On no account should she remain inactive or give up exercise in the open air;
- (3.) She should, however, avoid undue excitement and overfatigue, as well as, so far as is possible, mental strain and worry;
- (4.) Her food should be plain, wholesome, and free from any form of alcohol;
- (5.) She should live and sleep in well-ventilated rooms, and spend all the time she can in the open air;
- (6.) Her dress should not be tight or heavy, and her skin should be kept healthy by baths;
- (7.) Special attention should be given to her teeth, for one decayed tooth interferes with nutrition and exposes the body to a process of slow poisoning;
- (8.) No symptom of disorder or of ill-health should be neglected. In justice to the unborn child, medical advice should be sought. Only the expert knows how often "one stitch in time saves nine."

#### CHARACTERISTICS OF CHILDHOOD.

Most mothers, if asked to describe the characteristics of a healthy child, would most probably and properly reply that these depend upon its age. During infancy the capacity for profound sleep is the most striking characteristic; a year or two

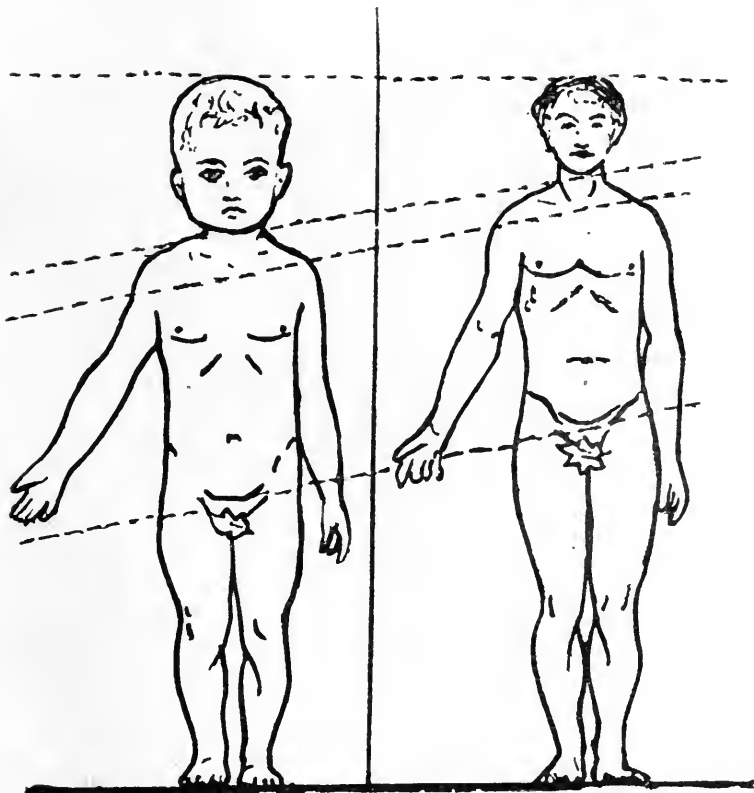


Fig. 2. Showing relative proportions of a child and adult.

later the ceaseless activity of a normal little boy or girl is often a source of actual inconvenience to the busy mother, especially when to this restlessness is shortly added an insatiable curiosity. Little fingers insist upon carrying out all sorts of

investigations; small feet carry their owner into every nook and corner of the home; and meanwhile the little tongue is never still, but persists in putting an endless series of often unanswerable questions.

### THIS STAGE OF ACTIVITY

is associated with remarkable facility for imitation, which gradually develops into self-initiated "make-believe" games, wholly absorbing to the player, who will work with perseverance and vigour to attain some desired result. What part do these characteristics play in growth and development? What does each of them contribute to the upbuilding of that most wonderful thing in the world—a normal human being?

### THE PERIOD OF INFANCY

is concerned with the unfolding of life; for, at birth, the baby is but a sketch of what it will eventually become. Its very proportions testify to its incompleteness. Look at the enormous head, one-fourth the length of its body (the head of a well-proportioned adult is but one-eighth of his height). Look at the ridiculous little limbs; the arms must become four times their length at birth, and the legs must elongate fivefold before maturity is attained at twenty-five years of age. The shape and proportions of the trunk must pass through many phases and stages before they assume their permanent form. Each internal organ, each system and part of the body, shares in these profound changes, which continue for a full quarter of a century; in the case of the brain, indeed, there is no term set to its possibilities of further development. In the case of the muscular system this usually ceases between forty and fifty years of age.

The healthy infant is a passive, placid creature, whose chief business is to grow (a baby should nearly treble its weight at birth during the first year of postnatal life). At the same time it is adapting itself to its new surroundings and gradually exercising its unknown powers. The ceaseless activity and insatiable curiosity of the little child during its waking hours are necessary to nutrition and growth, equally of mind and body; if unwisely checked, normal development is impossible.

### THE CHIEF REQUIREMENTS OF INFANCY AND EARLY CHILDHOOD ARE:

Prolonged periods of quiet sleep, undisturbed by noise, light, movement, or other interruptions:

Food suited to the age, taken at right intervals, with machine-like regularity:  
Scrupulous cleanliness of person, clothing, and surroundings:

Pure air, warmth, sunshine, and suited exercise; last, but not least, consistent training in good habits.

To deal adequately with even a portion of these requirements would call for a whole bulletin; space permits of the most cursory details only.

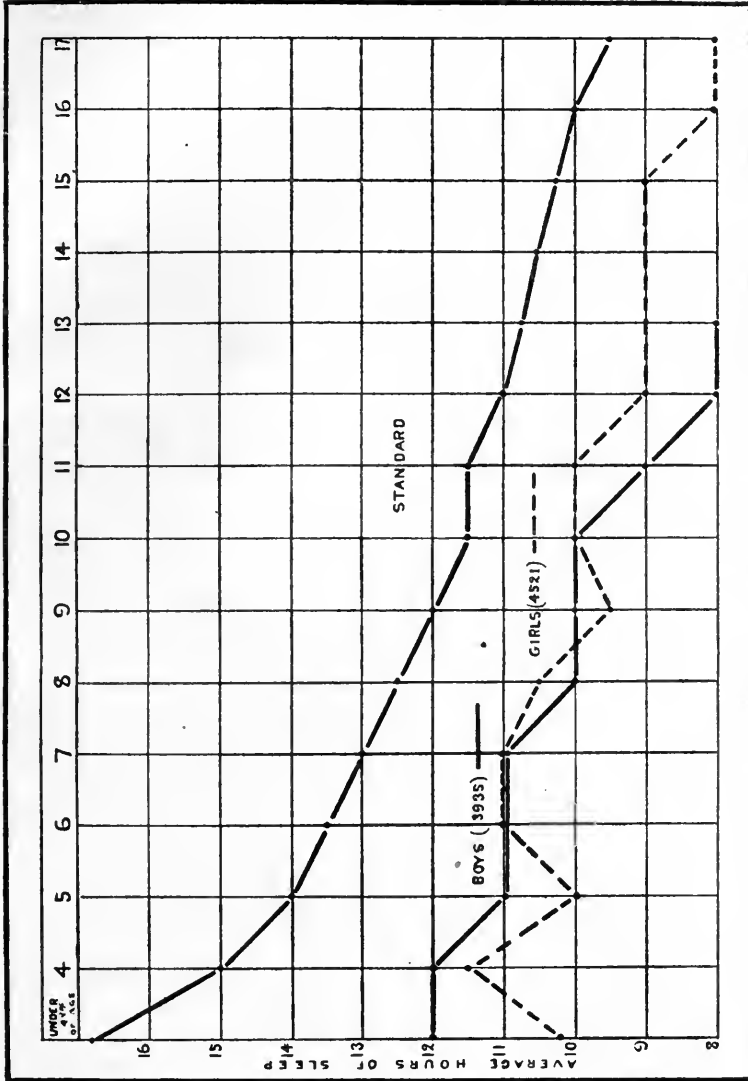
### SLEEP

is a state of healthy repose during which energy is recruited, all kinds of physical growth promoted, and the results of fatigue removed. If exposed to noise, bright light, or movement during sleep, the process of repair and the general refreshment of the body are interrupted; the sleeper awakes with feelings of weariness and nervous exhaustion; while, in the case of children, growth is stunted and mental instability is fostered.

A glance at Fig. 3 will show the number of hours which should be absorbed by sleep during early life; it also shows the average number of hours which were the portion of several thousand girls and boys in England when I pursued my investigations seven or eight years ago. It is a matter for thankfulness that the attention attracted by the publication of these results has been one factor in securing improved conditions for many children. It is equally a matter for regret that in this new country, free from many of the economic problems which make life hard on the poorer part of the population in the Old World, the habit of prolonged quiet sleep is

not being systematically formed in the children. Yet the first authorities on nervous diseases and insanity are unanimous in their opinion that it is the soundest insurance against mental instability, so sadly prevalent in modern life.

FIG. 3. AN INQUIRY INTO THE HOURS OF SLEEP OF 9,000 CHILDREN IN ELEMENTARY SCHOOLS.  
Years of age.



Average hours of sleep at different ages of 4,521 girls and 3,935 boys from infancy to sixteen. Results of an investigation among Elementary School children in England.

**IT IS UNJUSTIFIABLE**

- (1.) To carry babies to places of entertainment or to private social gatherings, where lights are bright, air vitiated, and there is much noise; or
- (2.) To transport them constantly in conveyances without springs, such as the modern "go-cart," or in noisy street-cars and trains.

**THROUGHOUT LIFE**

sleep should be enjoyed in a bed comfortably warm (never be afraid to use hot-water bottles or hot bricks). Cold feet mean growth checked and heavy bed-covers are unwholesome.

The windows of a bedroom should be always open, except in very severe frost, when the occupant is in bed, and the light must always be shaded from the sleeper's eyes; which reminds me to draw attention to

## AN UNCONSCIOUSLY UNKIND ACT

on the part of many in charge of young children—namely, laying them flat in perambulator or cradle without shielding their eyes from the bright light, or even from direct sunshine. A moment's experiment with ourselves in a similar position will fill us with self-reproach. By preference such shades should be a pale green; on no account resort to a flapping and bewildering sunbonnet or floppy hat; though, on the other hand, no young child should be taken out with unprotected head. The bones of the skull are very immature during these early years and, in conjunction with the scanty hair natural at this stage of life, afford no adequate protection from the sun.

## FOOD IN INFANCY

should offer no difficulty. Nature provides all that a baby needs for the first nine postnatal months. Week by week this supply is adapted in quality and quantity to its growing requirements. Few people are aware of the subtle, marvellous changes in these respects which take place in Nature's own laboratory, the mother's breast. To imitate or replace them by artificial means is absolutely impossible. "The only way in which

### TO ADAPT COW'S MILK TO AN INFANT'S NEEDS,"

writes one of the first authorities on the management of babies, "is to pass it through the mother's body." It suffices to say that the death-rate among hand-fed children is from twenty to thirty times greater than among those whose mothers fulfil their maternal duties in this respect; while here, again, must be borne in mind the risk of damaged physique among the children who survive being fed on cow's or other forms of milk, though it may be years before the damage shows.

### NO TROUBLE IS TOO GREAT

to enable a mother thus to safeguard her infant during these months of helplessness and dependence. The latest teaching on the intervals between feeds advocates three hours after the first fortnight, from 5 a.m. until 11 p.m., with a six-hours interval at night, which allows the mother necessary repose and rests the digestive organs of the infant.

Never break the habit of absolute regularity. There are many other reasons for crying than hunger, and a teaspoonful of warm boiled water will often soothe a fretting baby, who cannot voice its thirst by any other means.

### HAND-FED INFANTS USUALLY SUFFER FROM EXCESS OF FOOD.

Fig. 4 illustrates the exact size of a baby's stomach at birth; most feeding-bottles hold 8 oz., a capacity not attained by the stomach under at least three months; and our sensations must have taught us at some period or other of our lives that to fill the stomach to its utmost capacity is accompanied with feelings of great discomfort! The use of tube feeding-bottles is forbidden by law in France and discouraged in every country.

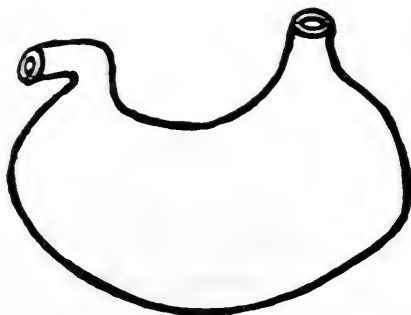


Fig. 4. Infant's stomach at birth; exact size

A child is weaned about the tenth month, but milk should remain its staple food for the next three years, and should play an important part in its diet until nine or ten years old. For this reason, sugar should not be introduced too early to a child's notice, or it loses its taste for milk, which contains sugar, it is true, but in another form from that served at our tables or manufactured into candies.

### DO NOT BE AFRAID

to give crisp bread, toast, or cracker to little folk so soon as they have cut four teeth and can begin to train their jaws to chew. At first, after weaning, much of their food must be soft (the lightly boiled yolk of an egg, potato mashed in gravy, pounded fish or chicken, milk-puddings, etc.); therefore see to it that the necessary exercise of jaw and teeth, the essential training in mastication, are provided by a systematic supply of crisp breadstuffs.

### THE HEALTH OF THE MILK-TEETH

is decided by the nutrition of the mother during the antenatal period; the well-being of the permanent teeth depends upon whether or not they are infected by the decay of the first set of teeth, and upon the regular and sufficient exercise of the growing

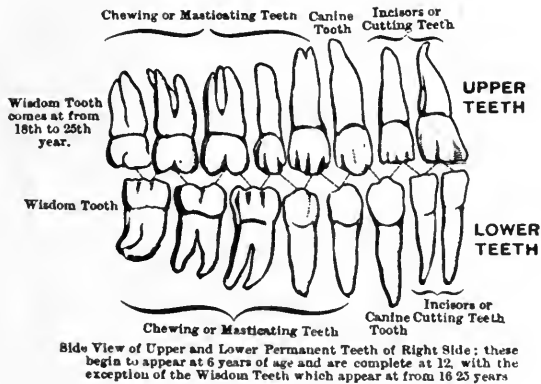


FIG. 5. DIAGRAM OF TEETH OF CHILD.

(Reproduced from Dental Charts for School Use.)

jaws. A decayed tooth must receive immediate attention from the dentist, otherwise the remaining teeth are infected. Besides which, if one tooth of either set be lost, two other teeth have their work hindered. Look at Fig. 5. The truth of this statement is conclusively proved.

### TWO INVIOABLE RULES

must govern the care of children's teeth:—

- (1.) Each meal after weaning must close either with a drink of water; the chewing of a piece of crisp crust, or toast or cracker; or a few teaspoonfuls of orange-juice. After the age of seven or eight a crisp apple or even one or two nuts may replace the other forms of mouth-cleansers:
- (2.) So soon as a child has two teeth side by side the mother must accustom it to washing the teeth with warm water and a simple powder (not paste or fluid) at bed-time, and preferably in the morning also.

NOTE.—Under no circumstances may a child be sent to bed with candy or sweet-cake or biscuit after the washing of its mouth.

While on the subject of a child's diet, it may be well

### TO DISCUSS FOUR POINTS

which often present difficulties to mothers. I refer to the character and quantity of a child's drinks; its distaste for fat; its strong desire for snacks between meals; and the too prevalent tendency to constipation.

Do not be afraid to let a child drink freely of wholesome water. A healthy, active child of six or seven will drink nearly three pints in twenty-four hours in warm weather. The body cannot carry on the processes of growth and nutrition if there be a deficiency of water in the tissues; but it can easily get rid of an excess of water through the skin, the kidneys, the bowels, or the lungs.

**"DO NOT CULTIVATE A HABIT"**

of drinking just before a meal; but if a child rushes in very thirsty as dinner is being served on a hot day, let it drink freely, or it will be unable to eat and digest the food necessary to its support. It is well to train a child, also, to eat its meat before drinking, and then not to drink again till the close of the meal. No harm will follow reasonable drinking of water between meals. A thirsty child is a potentially naughty, and certainly an inattentive, one.

**MILK IS A FOOD, NOT A BEVERAGE;**

it becomes solid directly it is swallowed; do not therefore rely upon it as a thirst-quencher. Water flavoured with toast, lemon, or apple, very slightly sweetened, is

No. 2.

**THE "A.L." FOOD-VALUE DIAGRAMS.**

**AMOUNT OF FOOD NECESSARY AT DIFFERENT AGES.**

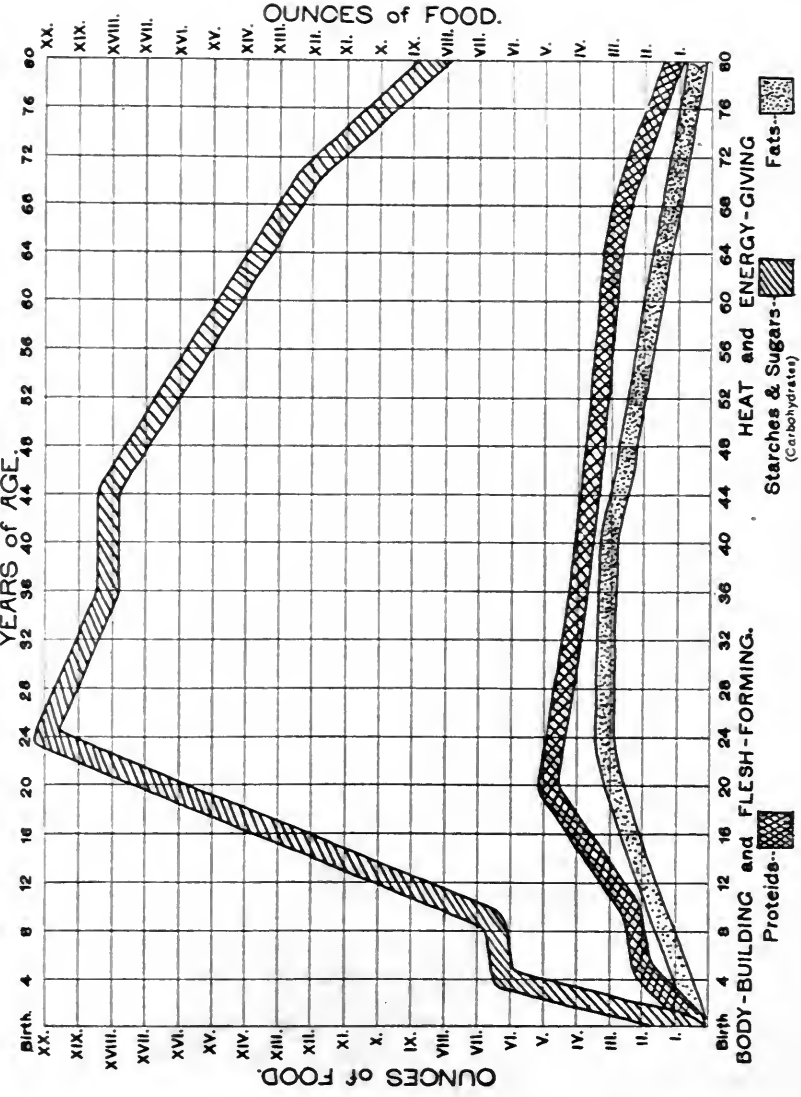


Fig. 6.



acceptable to young folk, but set your face sternly against tea or coffee as beverages until towards the age of thirteen or fourteen. Children suffer more from the harmful element in these beverages than we do. Cocoa makes a pleasant flavour in hot water and often induces growing boys and girls to take milk; but, so far as nutriment is concerned, the quantity taken is too small to be of any worth to the body.

### **ALCOHOL IN ANY FORM IS INADMISSIBLE;**

if to be given under doctor's orders, inquire if it may be combined with jelly, which minimizes the risk of a taste being contracted for the flavour as a beverage.

Fat ought to play a considerable part in a child's diet, as will be seen on reference to the chart of relative proportion of nutrients required at different age periods. (Fig. 6.) Unfortunately, this is often distasteful, except in its most expensive forms of cream and butter. Where these are available, cream with stewed fruit at breakfast and dinner and a plentiful supply of bread and butter (except with hot meats) are excellent foods. Where their supply is limited,

### **FIRST-CLASS SUBSTITUTES**

are provided in dripping, finely chopped fresh suet, and lard; these last forms of fat must be served in one of the many disguises offered by steamed or boiled puddings. The mixture can be flavoured with molasses or ginger, combined with sultanas, raisins, or fresh fruit (currants are too indigestible to be included in any child's dietary), eaten with sugar, preserves, jelly, or soup; while, in winter-time, home-made toffee is a wholesome addition to breakfast or lunch for a healthy child, but must never be eaten between meals.

Fresh eggs, too, contain a most digestible form of fat; but fat fish, such as salmon, herring, or mackerel, are not good for young children.

### **NO FRIED FOOD, PASTRY, OR HOT CAKES**

should be given to little folk, neither are nuts (a food very rich in fat) allowable under the age of nine or ten, and then only in small quantities, taken as a part of a meal.

Children crave for fruit but often dislike vegetables. If freely supplied with fruit in a suitable form, the craving for sugar (of which there is a relatively large proportion in fruits) is legitimately gratified. For the first two years of life the juice of an orange is alone permissible; then a little of the pulp of a baked apple may be given, prunes stewed and finely mashed with a fork, or baked banana.

### **ALL FRUIT SHOULD BE COOKED**

before it is given to children under nine; especially bananas, plums and other stone-fruit, from which the skins must also be removed. All fruit containing seeds, such as berries and grapes, must have the seeds removed. In the case of berries this means rubbing through a sieve. It cannot be too forcibly impressed that a child's digestive system is

### **THE WEAK LINK IN ITS CHAIN OF HEALTH.**

The extreme delicacy of the membrane lining the bowels renders it very susceptible to damage by coarse particles (such as are present in coarse oatmeal or whole-meal bread), and by the seeds in fruit, such as strawberries, or by currants or carraways in cakes, or by imperfectly chewed and undigested morsels of nuts. The germs of consumption or of diarrhoea, to mention two common sources of death among our child population, may gain access to the body through the tiny abrasions which are caused by these internal scratches; while, in the absence of such infection, the products of the process of digestion, which should be excreted, are liable to be absorbed into the blood-stream, and bring about a kind of self-poisoning, which shows itself in "bilious attacks," ill-temper, debility, and many other symptoms of depressed health.

## THE DESIRE FOR SNACKS

between meals may arise from one of several causes:—

- (a.) It may be from a deficiency of sugar in the diet; if so, a more liberal supply of fruit suitably prepared, with the meals, will soon remove the unwholesome craving. Over and over again it has been proved that the wish for candies (one of the most pernicious of habits) can be checked in this way:
- (b.) It may be from some defect in the digestive process, so that the child is really hungry, although well furnished with food. This is a case for medical advice:
- (c.) It may be, and too often is, merely a bad habit, which must be broken, no matter at what expenditure of patience and perseverance. It takes its rise in infancy, when the mother responds to every wail with food (sheer cruelty instead of kindness), or stuffs a "comforter" into the baby's mouth to keep it quiet.

## THE HABIT OF CONTINUAL SUCKING

is thus formed, and the craving for some object constantly in the mouth is established. Apart from the immediate injury to health by the exhaustion of the digestive organs for want of rest, and the damage to the teeth from a too liberal supply of nutriment to the organisms which cause decay, this detrimental habit of candy-sucking and gum-chewing leads on to early cigarette-smoking in boys, and very frequently to the practice of perpetually desiring "nips" of alcohol to stimulate the jaded palate. Now, these constant "nips" are found to be more deteriorating to the individual and his offspring than rare bouts of drunkenness, bad as these are. Therefore,

## THE MOTHERS OF CANADA

cannot be too watchful against the acquirement of either habit by the future parents of the country.

## THE SUBJECT OF THE INFANT COMFORTER

may here be fitly introduced, for, as Dr. James Cantlie remarks, "It seems of late years to constitute a chief part of a baby's equipment." He describes it as one "of the most deleterious and destructive" agents to health ever invented. "The evil effects of the prolonged use of the 'comforter' are not merely temporary," he writes; "they continue throughout life, causing a permanent deformity of the mouth, and of the air-passages generally, frequently inducing many associated deformities and disfigurements, resulting in conditions difficult to remedy and incompatible with robust health. To begin with, the marked prevalence of

## ADENOIDS

and the introduction of the 'comforter' came in together; . . . the roof of the child's mouth is pushed upwards (*see* Fig. 7), the floor of the nasal cavity is encroached upon, and the passage of the air through the nose is impeded. The child finds breathing by way of the nose difficult, and mouth-breathing with all its attendant evil effects sets in. The natural channel by which the air enters the lungs is through the nose, where the air is moistened and warmed before it reaches the windpipe and lungs. When the air enters directly by the mouth the throat and tonsils are subjected to irritation, and resulting enlargement of the tonsils still further impedes respiration . . . air is inhaled in lessened and insufficient quantity, leading to diminished expansion of the lungs, narrowing or flattening of the chest, and imperfect purification of the blood." Dr. Cantlie proceeds to describe in detail how adenoid growths are brought about, in what ways the jaws become deformed (this affects the tone of the voice and the right position of the teeth), and how the whole process of digestion is rendered feeble and inefficient by reason of the constant irritation caused by the presence of this filthy, heating, unnatural object in the mouth. This is his conclusion: "A 'comforter' causes deficient respiration, a deformed mouth, a miserable chest, a ruined digestion, adenoids, and ear-troubles."

In the face of this expert evidence it is to be hoped that this vile habit may be banished from this Province. It is wholly unnecessary if a baby is well trained and well managed. I have persuaded many mothers to abandon its use, and they tell me that in two or three days they find the habit can be broken; only, let me remind you that to substitute "thumb-sucking" is almost as pernicious and quite as unnecessary.

#### LEARNING TO EAT FOOD IN THE RIGHT WAY AT THE RIGHT TIMES

is a part of a child's education. An excellent plan with fanciful children is to treat any kind of food they ought to eat, but do not care about, as one much appreciated by their seniors, only allowed as a treat to juniors. Green vegetables, milk-puddings, or other such simple fare become popular by this method. By the way, raw cucumbers, onions, or tomatoes are very undesirable for young children,

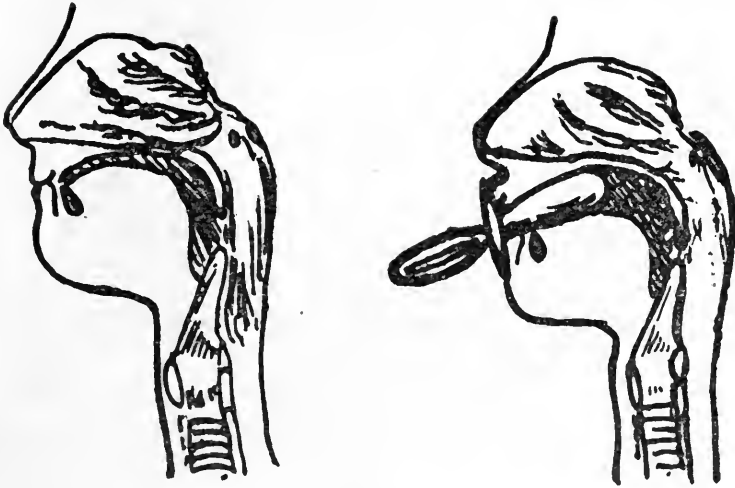


Fig. 7.

Sections of nose and mouth.

Normal relation of parts.

Distortion caused by "comforter."

so are radishes and other salads, especially when combined with rich sauces. Their stringy, indigestible character class them with rhubarb as unfit for children under ten or eleven years of age, and then only sparingly. It should be—but, sad to say, is not—unnecessary to state that no child should ever taste pickles or sauces.

#### WARM FOOD IS BETTER FOR CHILDREN

than cold, because it is in almost all cases more easily digested. If cold food, such as bread and butter, form the principal item in a meal, then provide a hot drink; water, so hot it can only be sipped, is quite good if cocoa or milk are not at hand. It would be waste of time to point out the unsuitability of ice-cream as a food for small people. No one would trouble to believe what is nevertheless a fact. To take ice-cold food at any age imposes a great strain on the body, but adults have much greater capacity to resist such a tax on their powers than is the case with children. The only occasion when iced food is allowable is during a heat-wave, and then, if given to little children, it should stand until the extreme chill has passed off.

#### "MY CHILDREN TAKE NO HARM"

will be the exclamation of the majority of mothers. Let me draw their attention to a discovery of recent years, which is confirmed by every advance in the sciences of anatomy, physiology, and sanitation—namely, that the result of unwise actions or of prejudicial habits or of ignorant and careless neglect do not show themselves in a high percentage of cases until many months or years after their occurrence.

## YOUNG HUMAN NATURE IS SO ADAPTABLE,

so elastic in its response to the conditions under which it lives, that it is only when some severe strain is imposed by accident, illness, overwork, the shock of a sudden bereavement, or the fulfilment of the function of maternity, that the flaw is revealed, the weak spot gives way, or some unsuspected damage leads to a break-down of the vital machinery.

A wise variety of food is beneficial after the first three years of life; *but*, and this is a "*but*" of primary importance, intelligent regard must be had to a child's age and a child's tastes.

Food which is hated is food undigested, and no child can be starved even for a day without risk. When porridge, or meat as well as its fat, or any one kind of fish, or even eggs, are obviously odious, so that the boy or girl will go hungry rather than eat them, do not attempt to force them down. There are quite definite

### FOOD IDIOSYNCRACIES

at all ages, and these must be respected. They may be outgrown; if they are, so much the better.

A child's chief meal should be at midday; to eat heartily just before bed-time is not to be recommended; preferably there should be at least an hour's interval. This introduces the subject of

### SCHOOL LUNCHES,

for many children have to take their midday meal away from home. To provide and pack a suitable lunch daily for two or three growing boys and girls calls for considerable management and time; it is far more satisfactory when arrangements are made for a good, hot meal at the school, a method most skilfully developed in the United States, even in rural districts; more slowly adopted in Great Britain, and scarcely yet attempted in Canada. The subject calls for the early attention and prompt action of the Women's Institutes.

### THE QUANTITY OF FOOD

required by individual children from infancy upwards varies widely; it depends upon size rather than upon age. If the pace be set sternly against "between-meal snacks" in any form, unrestricted consumption at meals may usually be permitted, if demands for "more" are satisfied by bread and butter or simple puddings. If these are contemptuously refused, there is no reason to suspect unsatisfied hunger. Finally, meat or fish should not be given more than once a day under ten, and not more than twice a day during school-life. When a boy begins a man's work he needs a man's diet.

### THE PREVALENT TENDENCY TO CONSTIPATION

in early life is usually the result of failure to train in the necessary habit at a sufficiently early age, or of laxity in the superintendence required to see that as a child becomes more independent he does not ignore the call of nature for relief, owing to his absorption in play or other pursuits.

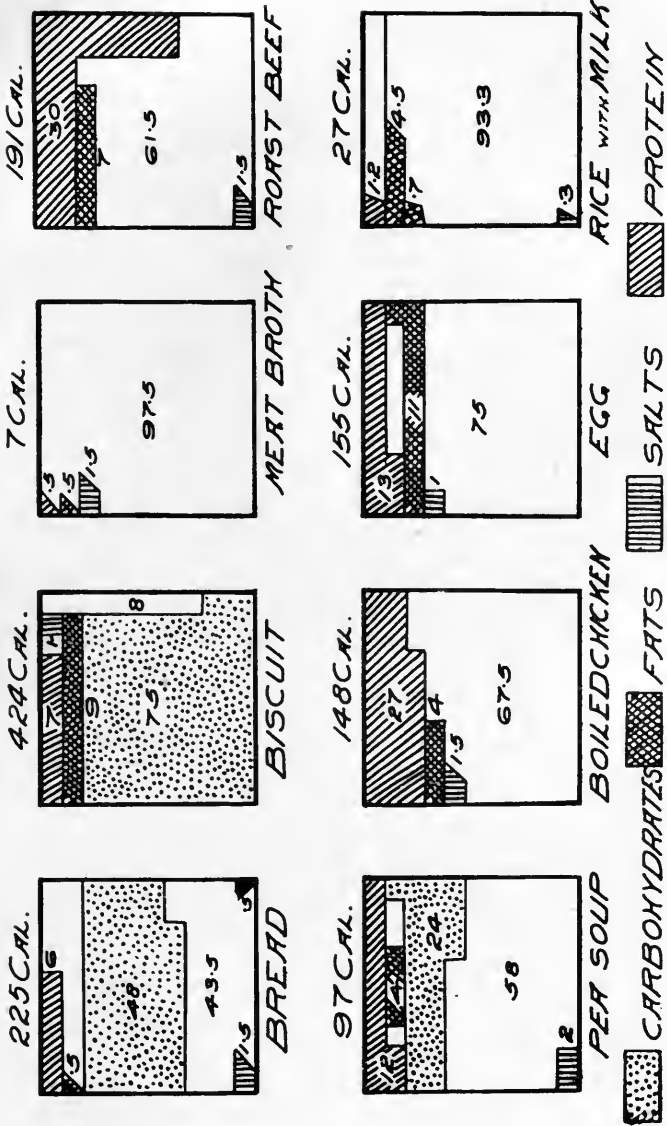
A clever nurse can train an infant to regularity in this respect by the age of six weeks, with the result that the habit becomes so firmly established that purgative medicine is never needed, to the enormous advantage of the individual; *but*, and once again this is an

### IMPORTANT "BUT,"

regularity of time at which the bowels are trained to act is not the only element in successful training; the intestines must act strongly and forcibly, so that their contents can be expelled. This brings in the factor of diet, for there is no strength without work, and the bowels must be trained to work equally with other parts of the body. The food must contain sufficient bulk, which is secured after early life by eating suitably cooked cereals, fruit, and vegetables; it must contain enough fat (the addition of more cream to the diet, or of a little olive-oil or a slice of cold bacon, often removes constipation), and plenty of water must be drunk. Hence the well-known remedy of a glass of water on rising and on retiring to bed.

Remember that there must be no interruption to the habitual hour; and children must be trained to respect this physical need, and to rank it even higher than the brushing of their teeth.

As you value your child's health in later life, never resort to drugs, injections, or suppositories until success by diet has been well tried, and then it is far wiser to seek medical advice.



*AVERAGE COMPOSITION of some of THE MORE IMPORTANT FOODS EMPLOYED IN CHILDHOOD*

**CLEANLINESS OF PERSON**

follows very consistently upon this subject of attention to the relief of the body from injurious material, for the establishment of habitual control of the bladder and bowels is at the root of infant hygiene, making as it does for bodily cleanliness, external as well as internal.

It is wise to remind ourselves that warm water and soap are necessary factors in cleanliness of the skin; therefore each child should have a rapid cleansing of the

whole body daily with these agents, followed by a brisk rub with a Turkish towel. A large quantity of water is not necessary. At first the process can be performed as the baby lies on a blanket on its mother's lap before the fire; later on, the child can stand in a shallow pan of warm water, also near a fire in cold weather, and itself assist in the refreshing performance.

Very careful habits of washing the hands before eating or touching food must be early established, and a pride in clean nails must be cultivated. Apart from the unpleasant appearance of dirty hands, modern science demonstrates the lively existence of countless undesirable and infectious germs in the folds of the skin, the creases of the hands, and the crevices of the nails.

On the importance of dental cleanliness enough has been said; and attention to care of the scalp and hair must now surely be universal, though the wise mother of a large family will keep her girls' hair short as a precaution until they are twelve or thirteen years of age.

### **WHAT IS THE PLACE OF A COLD BATH?**

will be the next question. Is it bracing or does it only depress a child? Its effects depend chiefly upon the early training given to the heat-regulating capacity of a baby's brain. A child can be most advantageously trained to accommodate itself to sudden changes of temperature, as well as to intense changes of temperature, and where this training has been given chills and colds become unknown miseries, unless, of course, the child be infected by some one else who is suffering from a cold.

### **THE TEMPERATURE OF THE FIRST BATH**

should be 99° Fahr., and for some days after birth no change should be made; then slightly cooler water may be used at intervals of two days until the baby will enjoy a morning tub in water 25 or 30 degrees below that of his first experience. Such baths must be short, given before a fire, and followed by rapid drying and dressing. Or a douche of gradually cooled water may be given to the baby's spine, day by day, until at three months old he can stand a douche of cold water with the utmost indifference. Where this training has been neglected, few children benefit from a cold bath.

### **A WORD OF WARNING**

is here in place as to the serious strain on children of what are miscalled "hardening methods," such as sending them about in cold weather with bare arms and legs, or exposing unprotected heads to a burning sun, especially when their feet are immersed in cold water at the seaside or on the lake-shore.

The temperature-regulation machinery in the brain is quite overtaxed by its efforts to keep the bare legs warm and the heated head cool; the delicate nervous system is upset, and the results show themselves in what are described as bilious attacks, chills, etc., the true cause of the ailment being utterly unsuspected by those in charge.

### **CHILDHOOD IS NOT THE PERIOD FOR HARDENING,**

in the popular sense of the term, but essentially it is the age for careful and continuous cultivation of good habits, whether these are habits of prompt obedience to parents, of self-control in moments of pain or excitement, or in physical habits of mastication, cleanliness, and ready, though unconscious, response to changes of temperature.

Given fair chances of developing well-grown bodies to our boys and girls, and they will be "hardy" enough in later life.

### **ONE SECRET OF HEALTH IN CHILDHOOD**

is warmth, furnished by food, clothing, and exercise, not by overheated rooms or coddling. Clothing throughout childhood should be light in weight, easy, elastic, suited to the temperature, washable, and distributed evenly over the surface of the body.

A woven woollen combination reaching from neck to ankles, varying in substance according to the season; a woven woollen bodice to which are attached a pair of woollen knickerbockers, woollen stockings supported by suspenders, a knitted jersey coming well down over the hips, completed by a skirt for girls and knickerbockers for boys, is the ideal costume until school-days are over. The boots and shoes should be broad and easy, with low heels; on no account should high heels and pointed toes be allowed; and open-work stockings should also be taboo.

### IT MUST BE BORNE IN MIND

that the younger the child, the larger its surface in proportion to its bulk. Indeed, it is usual to estimate a child's surface as three times as great as that of an adult



Fig. 9.

An improperly clothed child. How to interfere with health and check growth.

in proportion to its size. Now, the body loses heat chiefly from its skin, while warmth is more necessary to a child than to a grown person, because growth and nutrition are checked by cold; consequently suitable clothing is of special importance.

### SHEER THOUGHTLESSNESS AND IGNORANCE

leave unprotected just those parts of a child's body where loss of heat is most rapid or attended by most serious results. (See Fig. 9.) I refer to the wrists, knees, and ankles, where the large blood-vessels are very near the surface (consequently, if these are left bare and naked, large volumes of blood are perpetually being chilled), and also to the upper part of

### THE LUNGS AND THE ABDOMEN.

If the lungs are insufficiently covered, as when a low-cut frock is worn, their most sensitive part is exposed to the risk of chill; while in the case of the abdomen this risk extends to the intestines, which are close to its surface; the processes of nutrition and growth are hampered or checked in each case, while the predisposition to contract disease is increased. A great authority on the subject of clothing asserts that many boys are stunted for life because they are clothed at too early an age in sailor or other fancy costumes, which leave the abdomen insufficiently protected.

In this country, where changes of temperature are

### **SUDDEN AND VIOLENT,**

woollen clothing is imperative for children. Recent researches, carried out with every care, abundantly confirm all former teaching upon the superiority of wool over every other material, especially for wear next the skin. Limits of space forbid a recapitulation of the sound reasons for this statement, but they are convincing and indisputable.

One word of warning must be given on the subject of the

### **INFLAMMABILITY OF FLANNELETTE,**

unless it be subjected to a special treatment before its sale to the public. Hundreds of agonizing deaths annually are the direct result of this high inflammability, entirely preventable deaths.

Flannelette is made of cotton, and plant-fibres are in nearly every case highly inflammable, owing to the large proportion of cellulose they contain, a substance which consists of about 50 per cent. of oxygen.

### **THE FIBRES OF ANIMAL ORIGIN MERELY SMOULDER;**

if set on fire, they do not flare up into a blaze as vegetable fibres do, because they contain but 20 per cent. of oxygen, besides a large proportion of nitrogen, which does not support combustion.

### **FEW GARMENTS ARE MORE HEALTHFUL AND SUITABLE**

than woollen sweaters; they are warm, elastic, and protect lungs, wrist, and abdomen. Long woollen stockings, supplemented in cold weather by gaiters and stout boots, equally efficiently protect the legs.

Please remember, it is not the number of garments worn by a child which protect it from excess of heat or cold, but their suitability in material, colour, form, and texture.

### **THE PLACE OF PLAY IN CHILDHOOD**

is the next subject to engage our attention. Why is it that the infant loves its daily baby play upon its mother's knee; why is it that institution babies flag, in spite of the elaborate arrangement made for their well-being? Because from the earliest days of life

### **PLAY IS THE GREAT EDUCATOR,**

the means by which a child comes in touch with the great unknown world around it; the channel by which it learns the parts of its own body and the capacity it possesses for movement, for sight, for hearing, for touching, tasting, or smelling.

At first, the tiny infant needs a playmate, and should find one in its mother or nurse; whereas, when one of many in a large institution, there is no time for this form of tender play; so the unexercised powers lie dormant or develop very slowly.

### **AFTER A FEW MONTHS**

the small child will play for hours alone, only asking for the sympathetic interest of its mother. All the time it is testing its faculties and powers, making experiments with the things around it, exercising patience and observation, perseverance and endurance, as well as its senses, its lungs, and its muscles. Happy the child with brothers and sisters to imitate, to teach, to share its pleasures with and to console in sorrow.

### **TOWARDS THE AGE OF SEVEN OR EIGHT**

the spirit of competition becomes more or less active, and fosters fresh effort and innumerable forms of muscular exertion. Then the advantage of combination to attain an end dawns on a child's mind, and in company with its friends wonderful feats are performed by imaginary pirates, or Redskins, or shipwrecked mariners, or robbers!



## WHAT DOES ALL THIS MEAN?

Why do we advocate plenty of play for our young people? Because, by means of self-initiated play, and through the agency, later on, of group games, in which the one subordinates himself to the many, our young folk are training their bodies, forming their characters, preparing their immature powers for future usefulness; learning the many and great lessons of life, in the way best adapted to their ages and most suited to their capacities.

### CHILDREN DO NOT NEED COSTLY TOYS,

but they do need a sufficient space in which to play (hence the urgent need for playgrounds in all cities); they do need sufficient time for free play (for the first eight years of life, play is the child's work); they need companions of their own age, and they need some kindly supervision, to stimulate or to restrain, to regulate or to soothe. A tin box, some string, a few nails and odd bits of lumber, a sand-pit, a hammer, a swing or a see-saw—these are priceless treasures to healthy children and will furnish them with endless amusement.

### BEWARE OF THE MODERN TENDENCY

to lead children to depend upon excitement, which often only causes friction and exhaustion, or upon ready-made distractions and not upon his own resources in his play-hours. How seriously abused, for instance, is the moving-picture show, which might constitute a real educational and also pleasurable agent for our children. So powerful is the craze to frequent these shows that it leads children, in some cases, to commit theft in order to gratify it; while there is only too good reason to believe that certain undesirable pictures are directly responsible for an increase in juvenile crime, as well as the cause of a definite form of serious eye-trouble.

A few words on the subject of

### EDUCATION IN EARLY LIFE

must bring this bulletin to a close, though it may be that some of my readers would like some guidance as to the age at which work, in the sense of definite occupation for self-support or to assist parents, should begin. This matter does not come within the scope of my subject, for work in the sense of responsible duty cannot be enforced during those early years with which these pages are concerned.

The young human being suffers in numerous directions from premature work, for childhood is but a preparation for the period when capacity for skilled occupation is ripe for development.

### THE FORMATION OF GOOD HABITS

from birth onwards is the best preparation for a productive maturity. The entire object of true education, writes one of our finest educators, is to make people not merely do the right thing, but enjoy the right thing. The parents who have studied the phases of child-development, the capacity for imitation and training so strong in a youth, who have systematically and sympathetically trained their family in habits of physical, mental, and moral control, will have prepared a soil upon which the arts, crafts, or sciences necessary to future successful work will grow and flourish to their hearts' content. It cannot be too often repeated that

### HABITS ARE THINGS THAT "HAVE US."

See to it, therefore, that some system governs the habits you grow in the young children for whom you are responsible; that they are those which make for health of body, balance of mind, and nobleness of soul.

Train to implicit and prompt obedience, to absolute regularity in the needful response to the requirements of the body, in consideration for others, and a love of service. It may seem

### A TRIVIAL THING

to train a baby from birth in regularity of action of bowels and bladder, in long hours of profound sleep, in the power to regulate its temperature rapidly, and, a little later on, in habits of careful mastication, in prompt obedience, in helpful

service of others. in respect for the good, the true, and the beautiful. But mind and body are so closely intertwined, habits are formed at so early an age, that the character and efficiency of a nation hinge upon the methods pursued by its mothers in the early stages of their children's lives.

### NO NOBLER WORK

can be conceived than thus to mould the future of a great people. "What the mother is, the children are," said John Burns. "Let us, therefore, glorify, dignify, and purify motherhood by every means in our power." "Nations are gathered out of nurseries," wrote Charles Kingsley. How needful, therefore, are opportunities for training in the responsible profession of motherhood; how important that all women should cultivate in themselves those qualities and virtues which will equip them to be Empire-builders.

"O'er wayward childhood, wouldst thou hold firm rule,  
And sun thee in the light of happy faces;  
Love, Hope, and Patience, these must be thy graces,  
And in thine own heart let them first keep school."

### ALICE RAVENHILL,

*Fellow of the Royal Sanitary Institute; Certificated Lecturer  
National Health Society, Great Britain and Ireland.  
Author of "Practical Hygiene for Use in Schools";  
"Elements of Sanitary Law"; "Some Characteristics  
and Requirements of Childhood"; "Household Admin-  
istration"; "Household Foes," etc.  
Late Lecturer on Hygiene, University of London, King's  
College for Women.*

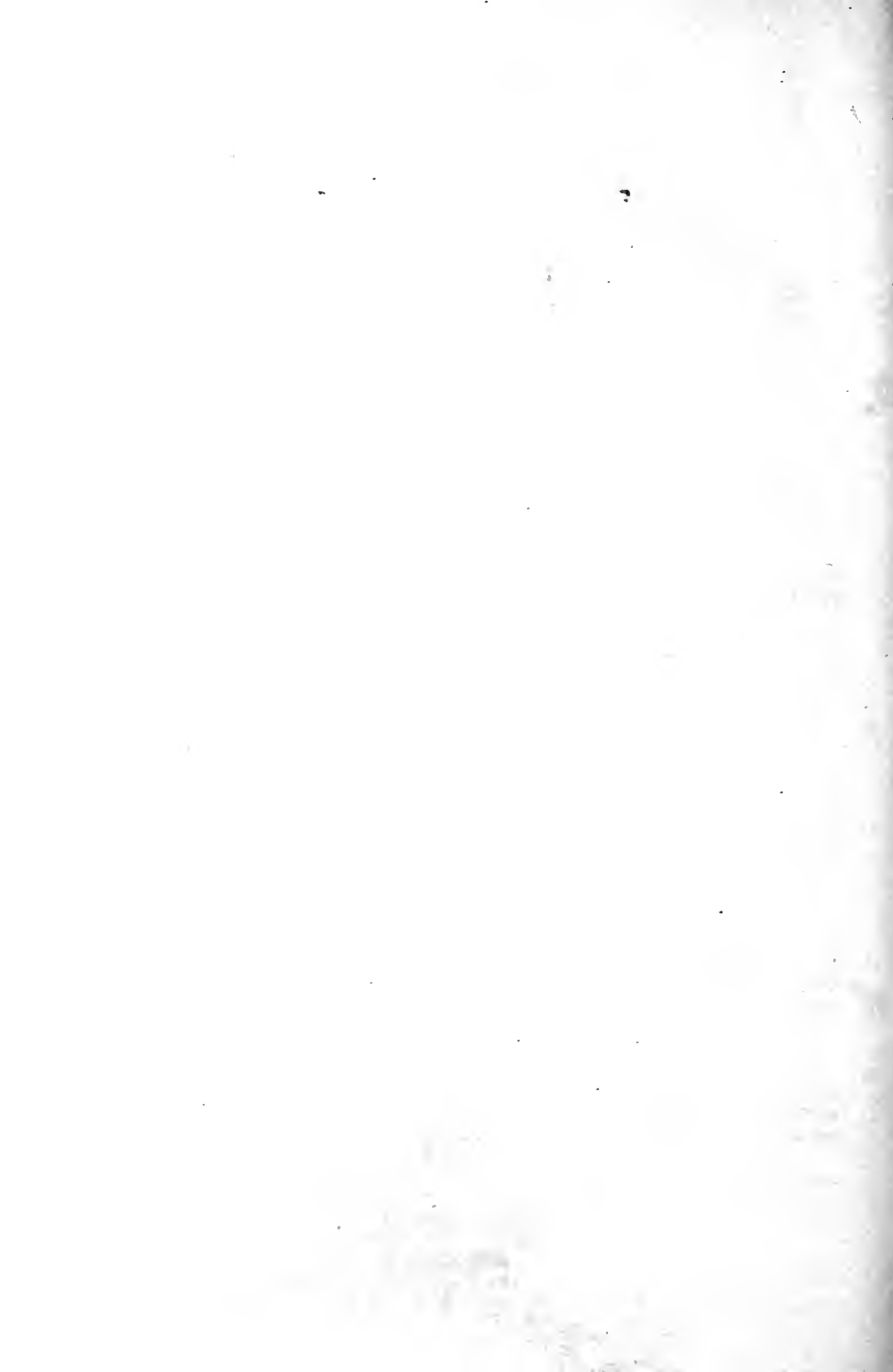
BULLETINS AND CIRCULARS AVAILABLE.

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November 18th, 1913	53	Care of Young Children.
November 20th, 1913	55	Care and Marketing of Eggs.
December 13th, 1913	56	Field-crop Competitions, 1913.
February 26th, 1914	57	Boys and Girls' Field-crop Competitions.
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December 13th, 1913	5	Clover Dodder.
REPORTS.		
May 9th, 1913 .....	..	Fourteenth Annual Report, Farmers' Institutes, 1912.
September 5th, 1913	..	Fourth Annual Report, Agricultural Fairs Association.
September 22nd, 1913	..	Report of Meeting, British Columbia Entomological Society.
June, 1913 .....	..	British Columbia Dairymen's Report.

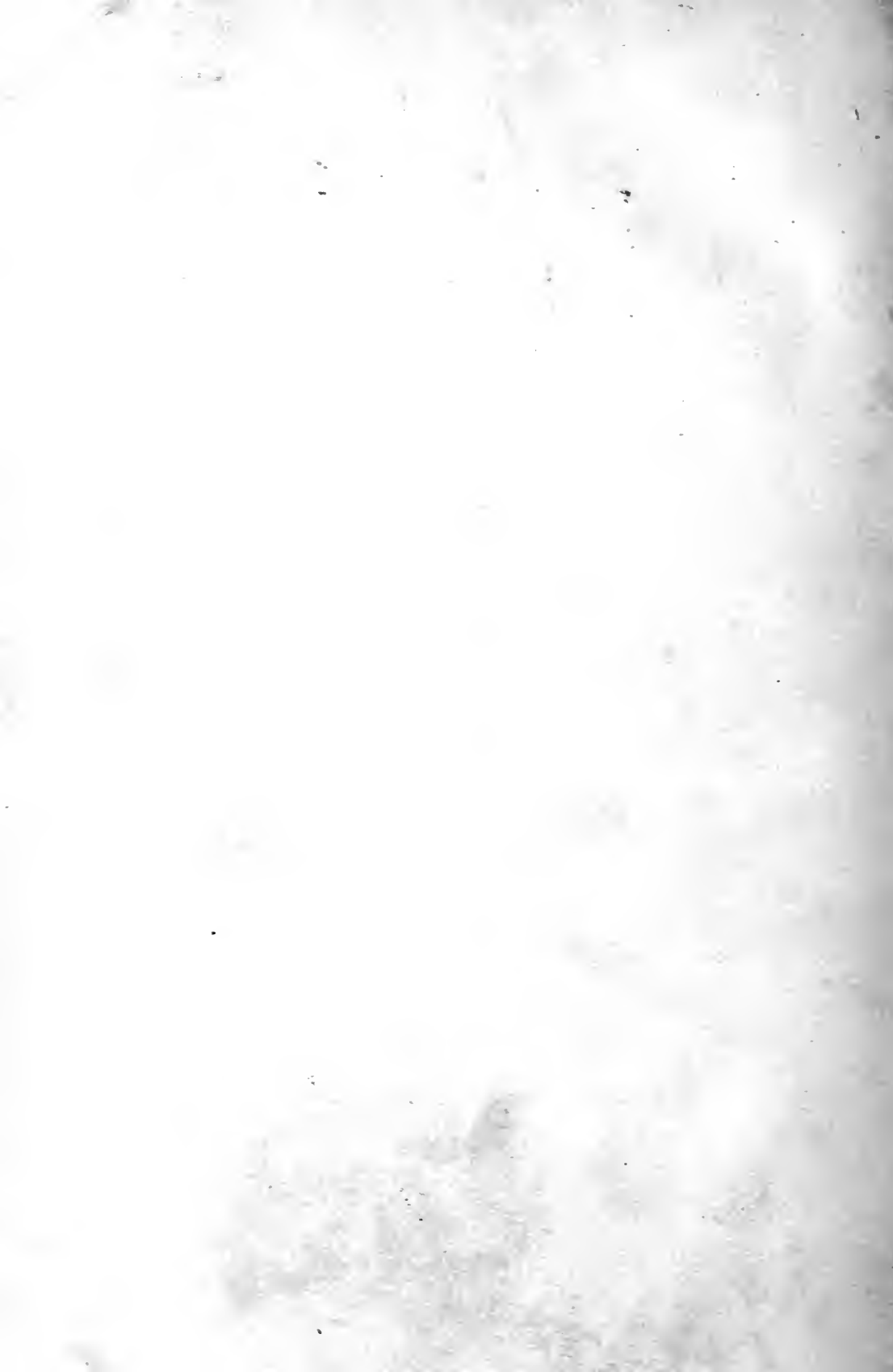
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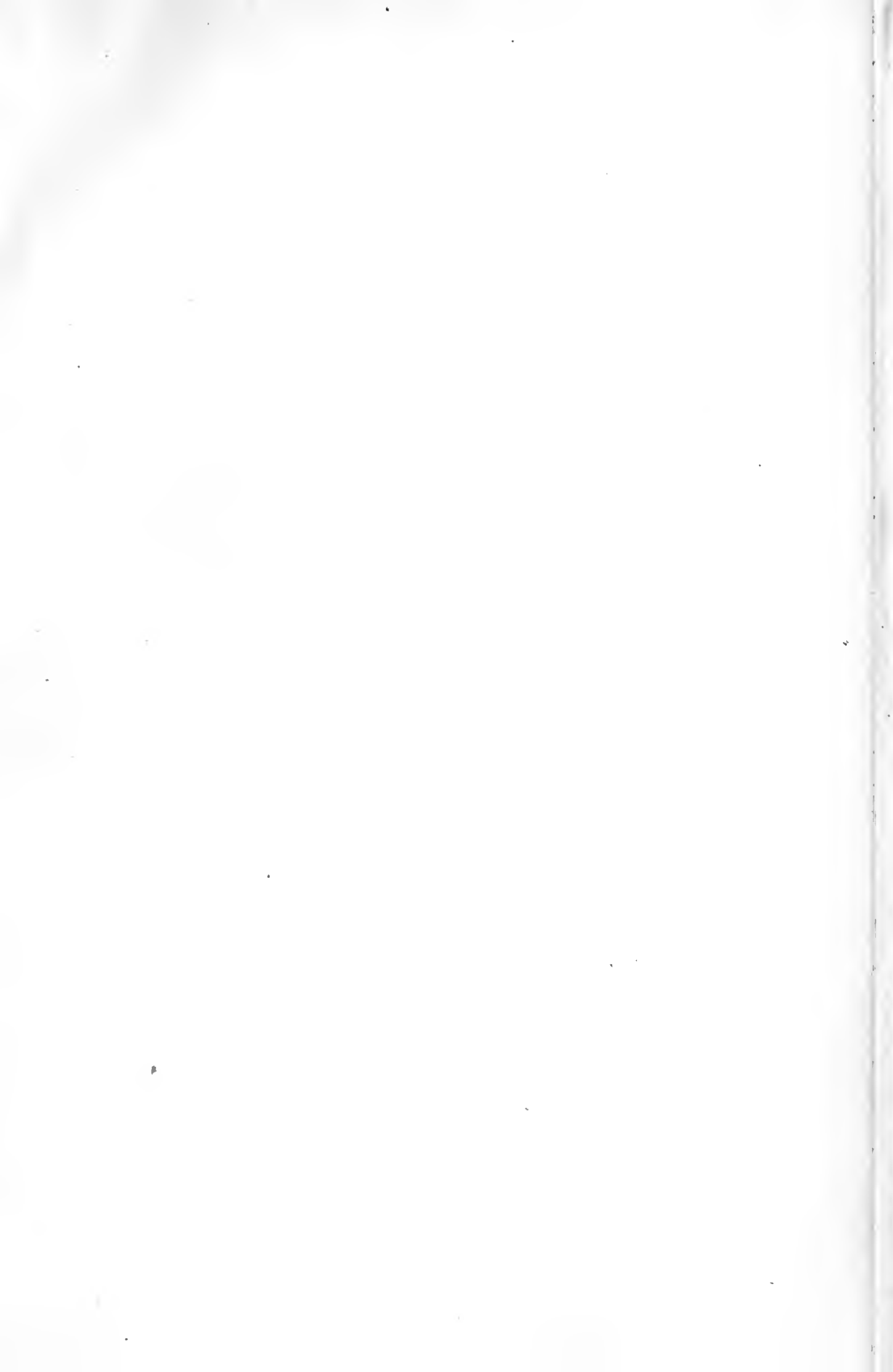
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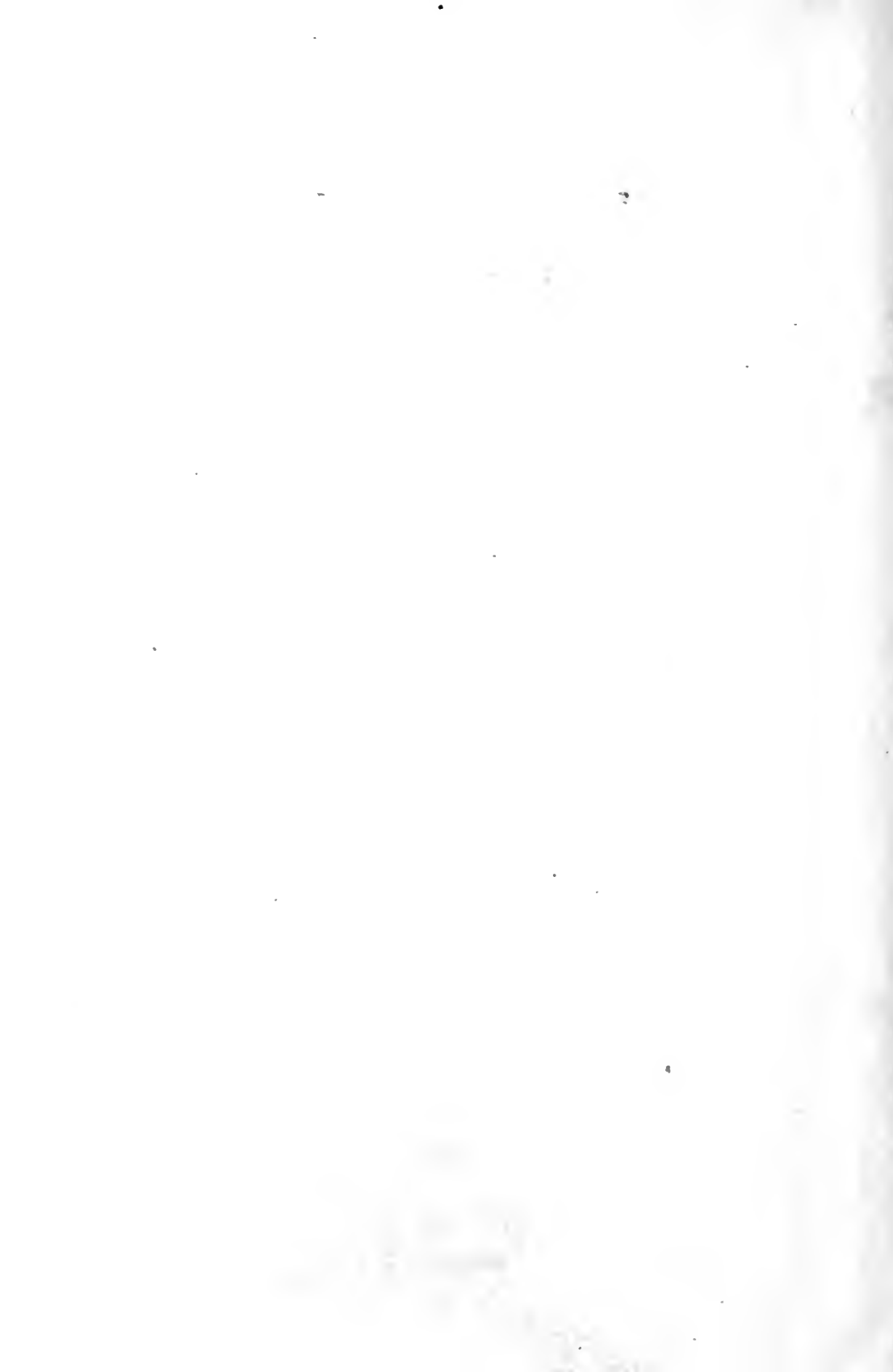
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